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The Journal of the
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Electromyography • Asymmetry in Disease
Surgical Drainage vs. Wicks and Venting
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Penis Captivus: Myth or Actualty?

Medical Book News

Editorials

Contemporary Progress

Vol. 73

No. 2

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EDITORIALS

Medical and Industrial Research Compared

THERE is a lag in medical research and progress which some critics ascribe to the lack of a planned, large-scale group system such as our great industrial organizations maintain. Such research and progress as we have are supported in the main by the foundations, which make moderate (and meager) grants-in-aid for worthy and promising projects on anything but a long-term, streamlined, master plan in the industrial sense, mostly to people who cannot devote their whole time to the projects.

Lessened income from the foundations' investments appears to have brought this matter to a head.

The critics point to the great progress in industrial research in such fields as chemistry, metallurgy and electronics. Such industrial products as electron tubes, television, rayon and lucite are cited as examples of the superiority of the corporations' method and results. We suspect a fallacy here. Medical research has to do with such things as respiratory physiology, shock, cardiorenal vascular disease, aging, and a host of other problems concerned with the nature and behavior of the human body. The industrial laboratory tends to promote the profits of a corporation and is really a mighty cog in the capitalistic system. The medical research project can seldom result, directly or indirectly, in real wealth for its promoters. If the foundations were to set up their own coordinated research laboratories and were fully to elucidate the remaining mysteries of respiratory physiology there would result nothing wherewith to recoup vast costs and losses through some "market." Thus there can be no true parallel between industrial research and medical research.

Industrial research is not superior to medical research; it is *different*.



The physiology of respiration has not the remotest relation to any market and investment capital would not be interested in its further elucidation.

We have here a burning question. What's to be done?

Only a Government with vast resources could bear the great costs and losses inherent in medical research. But today such sponsorship would involve all the hazards of

political medicine. Conceive of the creation of such a bureau now and shudder.

Only the future holds hope, when men may come to love truth even in the abstract, no matter what the cost. In the meantime the inevitable lag will bring reproaches from those of little understanding.

Complacency

WHEN Shobal Vail Clevenger, as special pathologist of the Cook County Insane Asylum at Dunning, made his epochal attack upon the corrupt political control of the institution, he was met by community and individual complacency on all sides. The clergy, the medical profession and so-called civic leaders lifted eyebrows and drew their precious garments aside. But the forthright and indomitable Clevenger finally, single-handed forced action against the county commissioners on the part of the State's Attorney, who had a political axe or two to grind and saw his opportunity. All the courage was supplied by Clevenger. The press finally cooperated and Clevenger's testimony, submitted in the face of attempted assassination (of his family as well as of himself), sent the thugs who did not escape to Canada to jail. The looting of Chicago's funds and the feeding of the asylum inmates' cream to Boss McDonald's blooded dogs thereupon ceased.

Clevenger has been well dubbed "The Don Quixote of American Psychiatry" by Victor Robinson. His kind of courage is

rare indeed, seldom disturbing the complacency (or apathy) of the citizenry.

Thus it takes the never-ending efforts of the Civil Liberties Union to secure enforcement of the Bill of Rights. People are even complacent about violations of this section of the Constitution much of the time (when they are not promoting them), almost arousing suspicion that a Gallup poll would reveal actual opposition of many to free speech, free press and free assembly, and to minority rights in general, even in time of peace. How wise the founders of this country were to create this section of the Constitution, and how useful and indispensable the Civil Liberties Union has been.

With respect to the complacency that tolerates war, Don Quixotes, voluntary committees and the hopes of civilized men availeth not. Here complacency attains a distinction like unto that of an incurable disease.

Regarding the present health needs of the American people and a proper understanding of the social and economic bases upon which they are to be met there is much complacency. These needs are stated by Bernhard J. Stern in his *American Medical Practice in the Perspectives of a Century* (the Commonwealth Fund, New York, 1945; sponsored by the Council of the New York Academy of Medicine and its Committee on Medicine and the Changing Order). Stern also points out that "There is no reason to believe that the present rates for the wealthy urban white groups are the optimum in terms of existing medical knowledge. They can, none the less, be used as minimum standards at which to aim, and as a basis for the definition of adequate medical care. Medi-

cal care can be considered adequate in quantity and quality when the morbidity and mortality rates of the population as a whole have been raised to the highest levels now prevailing in wealthy, urban, white groups. . . . It is this very substantial achievement of medicine that has engendered many of its present problems. Modern medicine has proven its scientific efficacy to such a degree that when any segment of the population is deprived of its benefits, it recognizes that it is seriously at a disadvantage. The problems of medical practice that are agitating the public today are therefore primarily concerned with the provision of a high quality of curative and preventive medical service to all the people, whether they belong to low or high income groups, whether they be rural or urban residents, Negro or white. The future prestige of the profession and its further contribution to scientific and social progress are closely related to the solution of these problems. . . . Above all, to be healthy, people require the opportunity to work usefully and creatively during their productive years, under good working conditions, to receive incomes sufficient to provide the necessities of life, which include adequate and nutritious food, necessary clothing, wholesome housing, effective education, and satisfying leisure and recreation."

When one reflects upon what a social and economic revolution such a program as Stern's calls for, one senses the measurement of the complacency that stands in the way of the program's realization; for shall we not have, first, to achieve such things as peace, decent government, the full acceptance of the Bill of Rights, and social justice?



Seventh Annual Forum on Allergy

THE Seventh Annual Forum on Allergy will be held in the Hotel William Penn, Pittsburgh, Pennsylvania, on Saturday and Sunday, January 20-21, 1945. This is a meeting to which all reputable physicians are most welcome, and where they are offered an opportunity to bring themselves up to date in this rapidly advancing branch of medicine by two days of intensive post-graduate instruction. For instance, the twelve study groups, any two of which are open to him,

are so divided that those dealing with ophthalmology and otolaryngology, pediatrics, internal medicine, dermatology and allergy run consecutively. In addition, the study groups are arranged on the basis of previous registration. In this way, as soon as the registrations are completed, the registrant is expected to write the group leader and tell him just what questions he wants brought up in the discussion.

For further information, write Jonathan Forman, M. D., Director, 956 Bryden Road, Columbus 5, Ohio.

ELECTROMYOGRAPHY

Geoffrey Weddell, M.D., D. Sc.

Department of Anatomy.
University of Oxford, England

AS the result of warfare, the attention of surgeons is necessarily focussed on specific traumatic affections. Among these are peripheral nerve injuries. As the result of such injuries severe disability may ensue, quite out of proportion to the amount of tissue damaged. Efforts to improve the results of the best peripheral nerve repairs have so far proved unavailing. Cajal (1928) clearly showed that the very nature of nerve regeneration was such that the previous pattern of innervation could not be restored after complete section of a nerve.

Since recovery from a peripheral nerve interruption must always in varying degree fall short of perfection, it is all the more necessary that an exact diagnosis of the extent of the lesion should be made and rational treatment carried out at a reasonably early date. In view of this, any additional diagnostic aid is more than usually valuable. In the Department of Anatomy, University of Oxford, electromyography has been developed to this end. In practice, electromyography has been found valuable not only in peripheral nerve injuries, but in the wider field of neurological affections which affect the lower motor neuron.

IN 1851 Schiff discovered that denervated voluntary muscle, when viewed directly, was in a state of continuous surface agitation which he found to be due to minute contractions of isolated areas of the muscle. This condition, known as *fibrillation*, commences in the rabbit about four days after a peripheral nerve had been cut.

Since Schiff's time, fibrillation has been studied by a number of observers. Denny Brown and Pennybacker showed in 1938 that specific action potentials can be recorded from denervated muscles in the human subject, and Eccles (1941) showed that the unit concerned in the activity is a single muscle fiber. Taking these results as a basis, a study by means of action potential recording has been made both in experimental animals and in man from the

time of denervation up to complete re-innervation and functional recovery.

This consists of a carefully screened co-axial hypodermic needle electrode coupled to a high grade amplifier which drives both a loud-speaker and cathode ray oscilloscope. Switching arrangements provide for graduated shocks to be delivered down the needle for determining the exact position of the recording tip (Fig. 1). In practice, the oscilloscope can be dispensed with; its main value is for obtaining permanent records.

We have found that no electrical activity can be recorded from a normal relaxed voluntary muscle in man, and that it is possible to relax completely the majority of voluntary muscles. All limb muscles, and even the sacro-spinalis muscles, can be relaxed completely. Among the few exceptions are the laryngeal and scalene muscles. Motor unit action potentials, which only appear when the muscles contract, take the form of monophasic and diphasic, and rarely more complicated, spikes which vary in amplitude from 100 microvolts to 1 millivolt and in duration from 5 to 10 milliseconds. They are heard as low-pitched sounds in the loud-speaker, and vary in number and frequency with the strength of the contraction. The concentric needle electrode has a normal useful recording range of 1 to 2 centimeters in respect of motor unit action potentials which are the electrical counterpart of the simultaneous contraction of some hundreds of muscle fibers composing the motor unit.

We have found that spontaneous repetitive action potentials from fibrillating muscle fibers can be recorded from denervated voluntary muscles in man, provided the muscles under examination are at approximately blood temperature. Fibrillation action potentials are of two types, those evoked by insertion of the electrode, which last a few seconds only, and those which are spontaneous and repeat rhythmically when the needle is motionless in the muscle. They both take the form of monophasic or diphasic spikes, 1 to 2 milliseconds in duration and up to 100 microvolts in amplitude, repeating at variable rates between 2 and 10 per second, and heard as sharp clicks in the loud-speaker. The time of onset of fibrillation activity in man is longer than in experi-

mental animals. In limb musculature the onset is from the 16th to the 18th day, in the facial muscles from the 12th to the 14th day, and in the sacro-spinalis muscles from the 10th to the 12th day. We have obtained fibrillation action potentials from muscles denervated for 18 years, although the number and frequency of the action potentials obtained in such a case is less than in one recently denervated.

Fibrillation action potentials can be obtained from partially denervated muscles; in cases where the number of motor units separated from their nerve supplies is minimal, the electrode has to be moved freely through the muscle before such action potentials are recorded. Spontaneous repetitive motor unit action potentials uninfluenced by voluntary effort, as well as fibrillation action potentials, are often recorded from cases of slowly progressive peripheral nerve interruption.

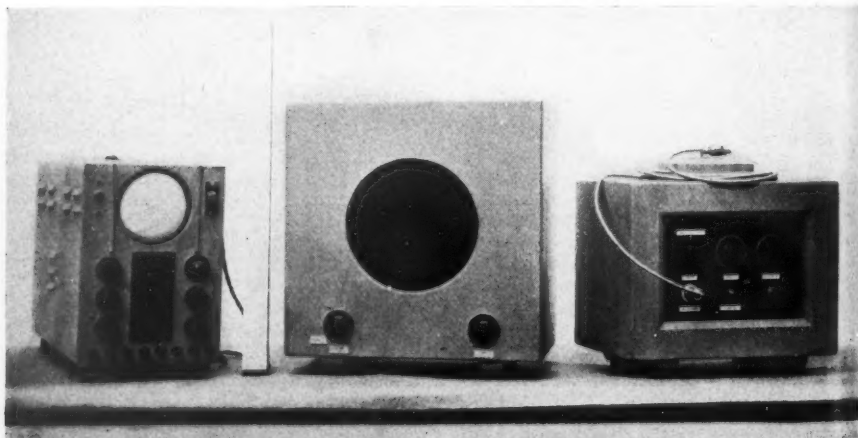
THE number and frequency of the fibrillation action potentials recorded from denervated voluntary muscle may be increased by raising the temperature of the circulating blood or warming the muscles under examination. On the contrary, a low temperature decreases the activity. Prostigmin also increases the number and frequency of fibrillation action potentials recorded from denervated voluntary muscle in man.

We have found that there is no relationship between the number and frequency of fibrillation action potentials and either the degree or rapidity of muscle atrophy; but muscles which have been receiving adequate physiotherapy, as judged by clinical examination, fibrillate vigorously, whereas denervated muscles which have been excessively splinted fibrillate feebly.

In cases of reversible ischaemic block, e.g., Bell's palsy, motor unit action potentials can always be obtained on insertion of the needle electrode and it is usual to find a few repetitive motor unit action potentials which may or may not be under voluntary control. On the other hand, fibrillation action potentials are absent or few in number and may be confined to discrete portions of the affected muscle.

During the course of re-innervation, a decrease in the number of fibrillation action potentials recorded is observed before the return of motor unit activity. Motor unit action potentials first appear, in response to attempted contraction, close to the position of entry of the nerve into the muscle and spread from this area. When motor unit action potentials first appear following regeneration, they cannot be sustained by voluntary effort. Prostigmin appears to have some beneficial effect in sustaining neuro-muscular transmission in the early stages of re-innervation. As motor unit activity increases,

Fig. 1. Apparatus used for clinical electromyography



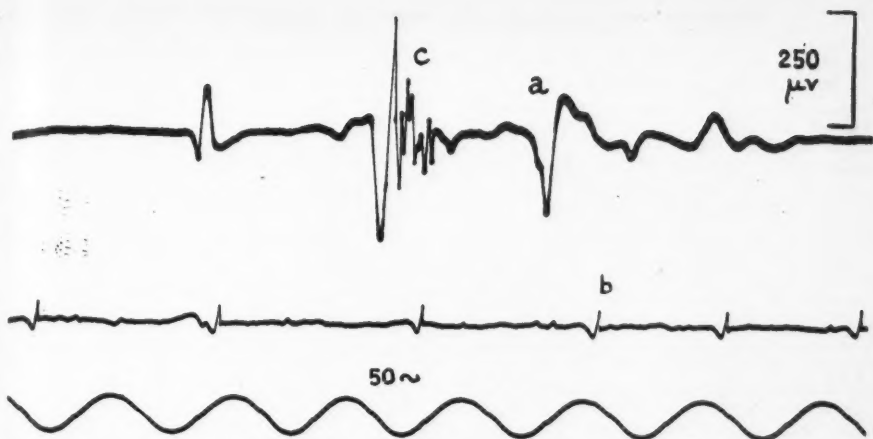


FIG. II a) Normal Motor Unit Action Potential.
 b) Fibrillation Action Potentials.
 c) Polyphasic Motor Unit Action Potential
 (Regeneration).

fibrillation activity decreases.

Small, very highly polyphasic motor unit action potentials are usually obtained from re-innervated muscles and their detection is of specific value from a diagnostic point of view. They are most numerous in the earliest stages of re-innervation, but may be obtained for over 18 months after regeneration. They cause a characteristic rough sound in the loud-speaker.

There is a variable interval (2 weeks to 6 months) between the first appearance of motor unit action potentials and the commencement of detectable functional recovery. This depends to some extent on the particular muscles involved.

Fig. II shows typical action potentials obtained from normal, denervated and re-innervated muscles. Detailed accounts of

the methods and findings are published elsewhere (Weddell, 1943, 1944).

THE observations described above show that electromyography is a valuable diagnostic weapon. Its particular value lies in the possibility of detecting small degrees of nerve interruption for which electrical reactions are of no value. It is also of assistance in the placing of the level and extent of a lower motor neuron lesion, for the degree of denervation in individual muscles can be accurately assessed by this method. When used in conjunction with the newer type of electrical stimulator, such as those developed by Pollock, it should be possible to give a more accurate diagnosis and prognosis in cases of peripheral nerve injury.



Oxygen Under Positive Pressure

OXYGEN under positive pressure may be administered to patients by means of a new apparatus which has been de-

veloped by the Army and will soon be given a clinical trial. It is felt that the availability of such a method may mark a great advance in oxygen therapy.

SURGICAL DRAINAGE vs. WICKS AND VENTING

Rafe C. Chaffin, M.D., F.A.C.S.

Professor Emeritus of Gynecology, School of Medical Evangelists; Senior Staff Member, Queen of the Angeles, St. Vincent, and Los Angeles County Hospitals; Senior Surgeon California Lutheran Hospital.

Los Angeles, California

THERE is probably no problem in surgery that has remained in such a state of confusion in the minds of surgeons as the one of drainage. From the time of the first incision into deep tissues or pre-formed cavities there has been a desire to drain, but until the past few years this problem has been only one of wishful thinking. In fact, it seemed so hopeless that most surgeons recognized that they were not draining and gave up the attempt.

It has been most unfortunate that the word "drain" was misapplied in surgery and because of this misapplication or lack of understanding of the meaning of the word, it has cost untold thousands of lives. No special blame can be placed for this loss unless it be lack of enthusiasm on the part of the surgeons to make more serious efforts to find out how to drain, instead of "letting nature take its course," and acceptance of the custom and habit of calling a "vent and wick" a drain. There is now a simple technique for real drainage and it is available for all hospitals and all surgeons. For that reason those doing surgery in the future will have to accept the responsibility of a mortality rate approximately 80 to 90 per cent higher than it would be with real drainage if they persist in using the old and obsolete methods of "wicks and vents" or close up infected fields.

In my travels and visits to large hospitals and surgical groups I have often heard it said that wicks and vents have probably killed more patients than they have saved. I am inclined to agree.

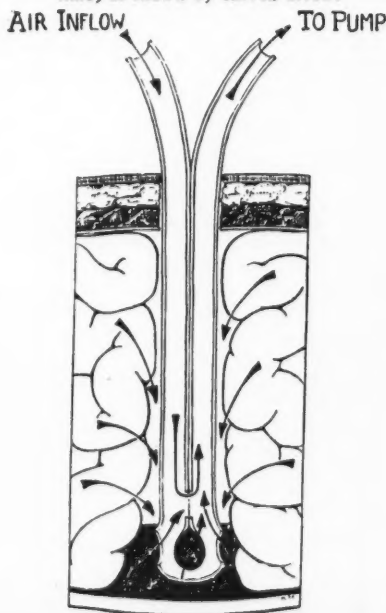
IN recent years it is common to hear surgeons say, "You know, I don't drain as much as I used to as they seem to get along just as well without drainage." My answer to that is, "You are right for you have never drained a cavity (especially abdominal); therefore, the same results. You only vented them and placed a wick."

Following is an explanation of the above remarks and my contribution is one of educating the surgical group on how to drain. My experience and study of this problem covers more than thirty years. First, I must explain that Webster says "drain" means to remove or suck out. A "vent" means an avenue of escape or permit to escape. Second, pus and water will not run uphill unaided. This is a thing that surgeons have been trying to make happen for years. Physicists, engineers and even uneducated laymen know that. But surgeons seem to have so completely forgotten their high school physics that they hope it may still be done.

When a wick (so-called Penrose drain) is placed in a vent, and the direction is uphill (98 per cent of the cavities are) it

Fig. 1.

Graphic illustration of tube in abdomen, surrounded by loops of intestine. Large arrows show direction of peritoneal secretion by gravity to lowest point—bottom of "well". Small arrows show fluid entering tube to be aspirated by the pump. Air flows in freely in "open limb," through by-pass and out other limb, as shown by curved arrow.



Illustrations reproduced by courtesy of the *Western Journal of Surgery, Obstetrics and Gynecology*.

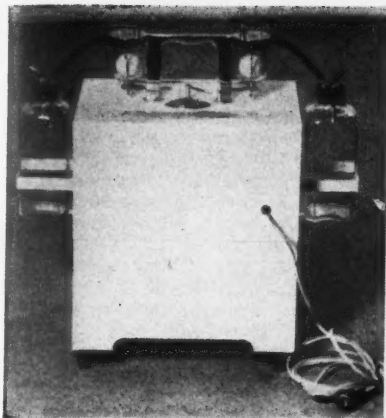


Fig. 2.

Latest type of pump furnished by the hospitals. Operates all Levine tubes in the hospital and is adequate energy to operate the Chaffin tubes. Water bottle device will NOT operate the Chaffin drainage of infected cavities.

serves only as an irritant, increasing the amount of contamination and infected secretion which runs in all directions (uncontrolled fluids seek their own level) and eventually is sufficient in amount for a little to overflow on the dressings. The special tube with suction removes all of the fluid from the bottom of the cavity, constantly and completely. (Fig. 1.)

WE have proven by re-operating previously drained (not vented) cases that where there is no infection coming to the surface as around a wick, but sucked out through the special tube, there is no canalization, and few adhesions. This is the first time that this information has been obtained and we have the evidence as all previous observations by others have been made on vented cases. Let me further emphasize at this time that the real damage of a wick occurs in the first few hours, during which time the infected fluid runs in all directions (seeking its own level). After this short period the wick seems to "coax" the infection to all surrounding clean tissues and to the incision (compelling infection).

Is there any danger in rubber tubes? There is not. We also have all of the evidence to prove that the special rubber tubes are harmless to tissue (intestine, omentum, etc.) and that fistulae allegedly from tubes have been caused by infection necrosis and lack of drainage (tube

acting only as a wick or plug) instead of by tube pressure.

My readers must remember that with this old method of plain tubes they were passive and pus collected around the tubes, infecting all intestines adjacent and therefore causing infection necrosis. We have no pus present at any time, either in the cavity or around the tube. We have no infection of the viscera between the original abscess and the surface and no pus poured into the wound. All of these tissues remain clean and retain their normal resistance.

AT this point it seems opportune to remind my readers of a physiological process, viz., that recovery of all diseased, damaged or infected tissues or cells is dependent on one factor: secretion. Secretion is the natural defense against infections and where there is no secretion there is no recovery or improvement, as in a cavity filled and overflowing with pus. When a cavity is emptied surgically and the pressure of the abscess relieved (reduced to zero), cell repair should begin at once. How can it when the surgeon does not continue the emptying process? The wick does not do it. Within a few hours the cavity is full and possibly overflowing (if a pre-formed wall) and under a measurable hydrostatic pressure (example is emptying a gall-bladder). Also if there is no wall the same fluid flows in all directions before overflowing and why should one want to increase the surface areas of infection by about 90 per cent, that is, compelling infection of the wound? If a wall (canalization) forms, the infection which has spread (coaxed by a wick) to all surrounding tissue will, in a few hours, increase the infected area many times greater than it was originally.

Just close the eyes a moment and get this mental picture. Or better still, make a drawing of a sagittal section through one of your "vented cavities" and follow with the pencil the course of the fluid secretion as it accumulates about the wick (due to irritation of the wick and the infection itself) and see in which direction it travels (Fig. 4).

What is there to make it flow "straight up?" Nothing. Now in contrast, follow the phenomena about a suction tube (Fig. 1.). All secretion (nature's offense) flows downhill, (the rule of physics says it does) and the suction removes it, and re-

moves it through the tubes, not around them. No infective material contacts the clean area or the wound. There is none on the dressings, but all in the bottle. This is the same technique as you use in the operating room.

THERE are almost as many fields in which to use suction drainage as there are fields of surgery. It is used both as a prophylactic and therapeutic agent. We have found that it seems almost as if peritonitis can not occur with this type of drainage and, if existing, is controlled unless the patient is in extremis (dying within one day postoperative). Our data in a large hospital for four years, taken from the autopsy records, show that there has not been a peritonitis death wherein suction drainage was used, except in the case of those dying in one day or less. There are a large number of deaths each year wherein wicks are used or in which there is closure without wick and sulfa drugs used freely. The members of our staff use several hundred of these tubes a year with suction drainage and only a few of the staff members still adhere to the old and obsolete wicks, or depend on a chemical treatment of an existing infection. The deaths as classified all occur in the services of this small group of surgeons.

The results must be similar in all hospitals as the staff members all use the same general line of treatment and personal ability, judgment and skill are minor factors in the mortality figures. The conventional method of attempting to drain with a wick is obsolete. The sulfa drug is new but very limited in its scope to prevent peritonitis as a complication of surgery or to materially alter the course of an existing one.

Now is the beginning of a new era in surgery or we might say it began a few years ago with the improved treatment of dilatation of the stomach. For generations we tried to accomplish the emptying of the stomach by having the patient vomit "uphill," but finally learned that it could not be done. So Chaffin, Wangenstein and Levine and others applied suction and the results are too well-known to need comment. However, they may still be improved in this field as the suction energy usually used is crude, inefficient and impractical. The water bottle gadgets should be replaced by electrical devices which operate more rapidly, posi-

tively and constantly and with little or no attention on the part of the nurse. This is the economical factor (Figs. 2 and 3).

Will it take as many years to learn that all infected fields and cavities can be drained by suction? I hope it will not.

THE technique is simple and fool-proof. All the surgeon has to do is first study the dictionary and learn that to drain means to "take out." Second, read his high-school physics and be reminded that pus will not run uphill unaided, then cease calling a wick a drain and admit to himself that he has never drained a surgical field (except by gravity), only vented with a wick. Now place the double barreled tube in every infected field or one that may become infected, chemically or bacteriologically, and apply the suction energy (the same as he does in the operating room with the Pool metal suction tube and the electric suction pump). What we do is to continue that operating room suction at the bedside, with a rubber tube replacing the metal one.

To determine the value of this technique, I might suggest to my readers to study the peritonitis death statistics of theirs or of any hospital, and make a mental note that 80 to 90 per cent of those patients should be alive. Is a technique or therapeutic agent that reduces a mortality statistical table 90 per cent worth a little mental effort? I think I have the answer.

A FEW of the accomplishments of suction drainage:

1. In the gallbladder field it has made it safe to deal with almost any pathology. Drain the gallbladder for very acute infections, ruptured and gangrenous gallbladders and also drain the adjacent field. Also drain the field when doing biliary surgery, and your patient will still be alive for another stage if it is necessary.

2. Pancreatitis. Suction drainage in this field will materially alter the very high mortality by recovery at their source of the enzymes that spread to and digest the abdominal viscera. Wash out the abdomen and insert suction tubes in all reservoirs and at the site of the pancreas. **NO MORE FLUID WILL BE ACCUMULATED IN THE ABDOMEN.**

3. Gastric surgery. Suction drainage insures against peritonitis from leaking suture lines or duodenal "blow-outs." We

believe that metastatic or secondary abscesses, including subdiaphragmatic infection, will not occur with suction drainage. They are caused by fluid seeking its level in 1, 2, and 3, confined without an exit. If those mishaps do occur the patient is not harmed if protected with suction drainage.

4. In all large bowel surgery. An end-to-end anastomosis can be done safely with the protection of suction drainage. Abdominal colostomies rarely need be done. The abdominal exteriorization bowel surgery has been developed to reduce the intra-abdominal surgical danger of infection. We now have evidence that practically all intra-abdominal surgical

danger of peritonitis in bowel surgery has been eliminated by suction drainage.

Nearly all left-side cancer may be resected and anastomosis made safely with suction drainage, even down to 2 inches above the anus. These patients (many are doctors) are much happier and just as completely cured (Babcock). The same or greater safety obtains on the right side.

5. Pelvic abscess (gravitating from above, or existing primarily) can be drained far better and safer than any posterior colpotomy ever did.

6. Abortion (pelvic) peritonitis should be suction-drained as soon as the patient is not seen to improve with chemotherapy.

Do not wait too long as recovery is prompt as soon as drainage is established (wick will increase mortality).

7. Appendix. With ruptured appendix and pus in the pelvis the pelvis should always be suction-drained (autopsy surgeons consistently find pelvic peritonitis with pelvic pus in deaths from ruptured appendix abscess).

8. Genito-urinary. All bladders, if opened, should be suction-drained. Why have urine extravasate into the abdominal wound during the overflow (not drained) with a single tube. There is no energy to make a single tube operate except through overflow. Syphonage does not work and I refer you to a book on physics. The bladder has to be full and under positive hydrostatic pressure, equal to the depth of the bladder, before it will "run over." Do not apply suction to a single tube as you will suck mucous membrane into the lumen. The Chaffin tube eliminates all suction on the tissues. Ruptured bladders produce a high mortality.

Fig. 3.

Photograph of patient with pump operating the Levine tube to one bottle of pump and abdominal drainage to the other. The "Murphy drip can" keeps the tubes clean for weeks. Saline in clean cases and Dakin's solution in foul cavity drainage.



They are made safe by suction drainage inside and outside of the bladder. Nature will wash out (auto-irrigation) the extravasated urine from the tissues by secretion if the surgeon will remove the secretion by suction. Repaired bladders cannot leak if kept empty with Chaffin suction.

These are only a few of the many fields in which suction drainage will reduce mortality and morbidity.

IN closing I emphasize that I have given the profession a therapeutic agent non-use of which in infected (active or acquired) fields shows that surgeons are not doing their utmost to reduce mortality. Ample evidence to substantiate the above statements is available.

Vaccination proved that fewer people need die of smallpox.

Diphtheria serum proved that diphtheria could be made less treacherous.

Quinine controls malaria.

Sulfa drugs have aided in the control of staphylococci and other infections.

Suction drainage has reduced the mortality of peritonitis, as well as of all other deep infections.

The information from over fifty hospitals, scores of surgeons, and years of personal experience and data obtained from statistics are the evidence. Literature will be sent upon request.



Fig. 4.

This is to illustrate what a Penrose wick will NOT do in any abdominal cavity. Shaded area is collection of pus and serum flowing in every direction but "straight up." When area is completely filled a small portion will overflow on gauze. Area of infected tissue is increased many fold. This new infected area accounts for most of the postoperative temperature and sepsis. Suction tube in this cavity prevents new infection and removes all secretion from the bottom. No wound infection and no soiled dressings.

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1137 SOUTH WESTLAKE AVENUE

ASYMMETRY IN DISEASE

STUDIES OF NORMAL ASYMMETRY

Donald deF. Bauer, M.D.
Durham, North Carolina

SINCE man is definitely and obviously an asymmetrical organism, manifestations of normal asymmetry are omnipresent during examinations of the human body. Bilaterally represented parts of the body are only approximately symmetrical in size, position and function. Organ systems such as the gastro-intestinal tract are manifestly asymmetrical. Although these matters are obvious, little thought is given to them. Once a physician has established the idea of normal anatomical asymmetry

during his early studies, he seldom gives further thought to the matter. Tests for asymmetry (for deviations from normal asymmetry) are employed in many fields of medical practice, such as: orthopedics, neurology, urology. These may be limited to physical measurements, but they sometimes include physiological measurements (kidney excretion). Awareness of the normal anatomical and physiological asymmetry patterns of the body is necessary for proper interpretation of such tests.

Similar tests and additional studies might be devised in order to learn more about the role of constitutional factors in pathogenesis. Such work already has been

Third contribution of a series under this heading.

undertaken. Correlations between the incidence of left-handedness and various psychological traits and even developmental anomalies have been attempted. Landauer found left-handedness more common among persons with supernumerary nipples than among the normal population. Stockard and others had found left-handedness more frequent in populations with various congenital malformations.

Practical minded physicians would prefer investigations with more obviously and immediately fruitful results of practical importance in diagnosis and therapy. Such studies could be undertaken in the record room of any well-equipped, large hospital. For example, it is believed that bronchiectasis occurs more frequently in the left than in the right lung. The question has very important practical implications and it is not settled. Some authorities insist that the statement about greater incidence in the left lung is true only if it is limited to cases of single-lobe or lower-lobe bronchiectasis. Further investigation may settle the question, and provide an important clue to the pathogenesis of many cases of bronchiectasis. A current explanation for the supposed greater incidence on the left side is that the lumen of the left bronchus is narrower and is further constricted by the left pulmonary artery. Drainage of secretions from the left bronchus is therefore more difficult than from the right bronchus. Infection, in the presence of relative obstruction, is thought to lead to bronchiectasis. Smith (3) states: "About 75 per cent of the cases I have seen have been unilateral and in the left lower lobe. . . . No satisfactory explanation of the location of the infection in the left base has been advanced. The bronchus to the left lower lobe is narrower, longer and more tortuous than the right, and this may make it more difficult to expel secretions and thus provide a more favorable place for the growth of anaerobic organisms." The analysis of larger series of cases from the standpoint of pathogenesis and localization might dispel the remaining uncertainties.

Similar statistical surveys of other diseases affecting paired organs should be undertaken — a search for statistically significant differences in contralateral morbidity rates. The enormity of the task and the diversity of the problems which might be somewhat clarified by diligent study of this nature will be evident only

to the individual who considers the matter and who, in addition, visits the record room and actually begins the study.

Experimental research will provide answers to many of the questions remaining after statistical methods have been exhausted. A rather simple illustration is offered by obstetrical interest in statistics of the mechanism of labor. Statistical methods have established the fact that most deliveries are by the LOA mechanism. The common explanation for this, that it is due to dextro-rotation of the uterus from pressure by the sigmoid colon, cannot readily be proven by statistical methods. Experimental research might confirm this explanation or provide an alternative, correct explanation.

Transposition of the Viscera

ANOTHER field for inquiry is at hand. That is the study of mirror-images of the "normal" anatomy of man. The "normal" individual has visceral disposition known as situs solitus. This is considered normal only because it is the predominant situs. Insofar as our present knowledge goes, there is no reason why situs inversus should not be the predominant situs. In fact our present knowledge of the proportion of the two types of visceral disposition is very inadequate. Estimates in the literature give the frequency of situs inversus viscerum completus (SIVC) as anywhere from 1:1,230 (Mandelstamm & Reinberg) to 1:35,000 (Le Wald). The methods used for examination make a large difference in the number of cases discovered and in the statistics subsequently derived. Perhaps new estimates will be given soon, based upon radiographic examinations of army recruits. From the biologic standpoint it would be interesting to know whether there is a variation in the proportion of the two types of visceral situs, over a period of decades and centuries. It might then be possible to learn the reason for the predominance, in the last few centuries at least, of situs solitus. From what we know of cases of SIVC, there is little indication that these individuals suffer handicaps greater than individuals with situs solitus. Therefore with the meager information available at present, we cannot conclude that situs solitus is dominant on grounds of "the survival of the fittest."

Information is meager although more than 1300 papers have been written on the subject of visceral transposition. Little serious research has been undertaken in this field. The subject has been treated as a curiosity rather than as a field for studious endeavor. In the last few decades investigators in Europe and America have discovered that the frequency of bronchiectasis is about 100 times greater in persons with SIVC than in the population with situs solitus. In this respect, individuals with SIVC do suffer a handicap, but exactly what factors are involved is not apparent. Men have argued that SIVC is an indication of defective development. That argument is really based only upon the proposition that the minority form is the defective form. The incidence of other congenital anomalies which are definitely handicaps is not greater among cases of SIVC than among cases of situs solitus. The high incidence of bronchiectasis in SIVC cannot therefore be dismissed by concluding that it is probably due to an associated maldevelopment of the lungs. Instead, a large series of cases of SIVC should be collected and studied for the incidence of bronchiectasis and from the standpoint of pathogenesis and localization of the bronchiectasis. These observations should then be compared with similar ones from a series of cases of situs solitus.

Neurophysiology in SIVC

MANY other phenomena of asymmetry may be better understood if attention is given to thoughtful studies of SIVC. It is reasonably well established that left-handedness is not more frequent in SIVC than in situs solitus. This has not attracted the attention which it merits, from the students of handedness. There are those who maintain that handedness is a hereditary physiological pattern, secondarily affected by environmental influences. Some of these authorities feel that the genic factors responsible for handedness are independent of whatever genic or other developmental factors determine visceral situs. In that way the apparent dominance of right-handedness in both situs solitus and situs inversus is explicable. There are other students of handedness who consider that behavior-pattern to be due entirely or largely to environmental influences. Consequently the chances for the development of left-

handedness would be the same for individuals with situs inversus as for those with situs solitus. This, which may seem to be a purely academic question thus far, is actually a matter with serious practical aspects. The relation between handedness and brainedness, although not clearly settled for situs solitus, has not been investigated at all in situs inversus. The accumulation of numerous cases of SIVC which have been treated surgically has raised questions about the anatomy and physiology of the nervous system in cases of SIVC. For example, there have been many case reports of right-sided appendiceal pain when the appendix and the inflammatory reaction of appendicitis were found to be confined to the left side. One observer (1) concluded that "The peripheral nervous routes may or may not be transposed independently of the viscera, the rotation occurring about fifty per cent of the time. When the transposition does occur, both viscera and pain pattern are reversed, whereas in cases of non-rotation of the nervous pathways the pain pattern remains in its usual location although the viscera are on the other side of the body. As a corollary to the foregoing theory, it is suggested that the nervous pathways may be reversed without change in the location of the viscera." Now certainly, the importance for further understanding of SIVC is apparent. Pain is the most frequent complaint of patients. Localization and interpretation of pain are the most troublesome medical problems. If the possibilities suggested by King could be realized and if means for the recognition of these could be established, there is no doubt that much time would be saved in arriving at satisfactory diagnoses and in alleviating discomforts. Investigation of this problem might well be attempted along lines already suggested above: collection of cases for statistical analysis, study of physiological dominance in the nervous system (handedness, eyedness, brainedness), and experiments in animals. Some techniques already being applied in this study are: dermatoglyphics, electroencephalography, anthropometry, the phi test for eyedness.

Dextrocardia

THE specialty of cardiology has been greatly aided by the development of electrocardiography. Further developments are anticipated and further aid to prac-

tioners is certainly to be expected from such developments. By means of electrocardiograms it is possible to distinguish acquired dextroposition of the heart in sinistocardia from congenital dextrocardia. The complete inversion of the first lead (provided there is no error in technique) is considered pathognomonic of true congenital dextrocardia. Although this method of differentiation has been known for decades, little attention has been given to the derivation of an adequate explanation for the pathognomonic changes.

Years ago there appeared from Johns Hopkins an article in which the anatomical description of the myocardium of two hearts from SIVC was given. "In these two instances of complete transposition of the heart, the main gross anatomical structures and the deep muscle bundles of the ventricles presented the mirror image of the normal, while the direction of the superficial muscle bundles remained unchanged." (4) Mall (2) completed studies which were begun by J. B. MacCallum of the musculature of the normal (*situs solitus*) human heart, stating: "It is apparent that the arrangement of the superficial fibers of the heart is such that their contraction will cause the heart to rotate, as is well known to physiologists." Systolic contraction of the myocardium, responsible for some of the changes in electrical fields recorded in the EKG, is believed to produce a rotation of the heart on its longitudinal axis. This is due to shortening of the fibers as they contract. Mall considered the superficial fibers responsible for the rotation. Taussig, who made the only contribution to date on the myocardium in dextrocardia (4), was forced to conclude: "... That the deep muscle layers are primarily concerned with the systolic rotation of the heart during contraction. ... The changes in direction of the principal masses of myocardial fibers in dextrocardia from the direction of myocardial fibers which Mall established as characteristic of sinistocardia, probably are responsible for the pathognomonic changes in the electrocardiogram of dextrocardia. Such a conclusion is unjustified, however, until correlations are made between EKG records from clinical studies of dextrocardia and anatomical descriptions from autopsy studies of the same cases. Such correlations are not possible for Taussig's cases because EKG studies were not done.

Work along this line is in progress. Dur-

ing the past year many hearts from cases of SIVC, isolated dextrocardia, and congenital forms of dextroposition due to maldevelopment of the heart have been studied. Many more cases are needed before the important concepts suggested by this investigation may be accepted as conclusions.

Great strides have been made in medicine since the adoption of statistical methods. The great textbook of medicine by William Osler employed the statistical approach, summarizing the experience of that physician and of institutions in which he practiced. Maude Abbott reviewed the literature of congenital heart disease and expressed in statistical terms what many observers had noted in clinical and autopsy observations of cases of the various cardiac anomalies. A like method of analysis of the literature on SIVC should be adopted. It would be a service to individuals with SIVC and to physicians treating such individuals. This, however, is not the most that could be expected from such an analysis. It would serve also as a contribution to studies of the role of constitution in pathogenesis. It would be a study of asymmetry in disease. A tabulation of the diseases suffered by SIVC patients might reveal that there are diseases other than bronchiectasis to which they are more liable than individuals with *situs solitus*. This would provide us with additional fields for investigation in the study of constitution in pathogenesis. On the other hand, it might reveal that there are diseases, common to individuals with *situs solitus*, from which SIVC patients almost never suffer. This discovery would be equally or more important.

Conclusion

INVESTIGATIONS of normal asymmetry may be productive of valuable information of a practical nature for the understanding of the constitutional factors in disease production. Transposition of the viscera cannot be regarded as a malformation on the basis of present information regarding this anomaly. It should therefore be included in studies of normal asymmetry, and it should be regarded as an important field for research. Many problems of anatomy, physiology, pathology, cardiology, surgery, neurology, and internal medicine may be in some measure

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POLITICAL MEDICINE ABROAD

THE BRITISH MEDICAL ASSOCIATION DENOUNCES THE ATTEMPT TO NATIONALIZE MEDICINE

THE British Medical Association, at its annual meeting in December, 1944, rejected the Government's White-paper proposals for an all-out National Health service with control of doctors.

The State servitude proposed was denounced unequivocally by the 250 doctors from all parts of the country, each representing 100 members in his or her area.

They particularly resented the Government's attempt to put its scheme over while doctors serving overseas had no opportunity to say what they thought the future of medical services should be. Following are some of the sentiments expressed by individual speakers, culled from the *Daily Express*:

"We do not want our men to come back and find they belong to the State; in Germany the State does not belong to the Germans, the Germans belong to the State."

"The plan would enslave our profession."

"We want to oppose totalitarianism on the home front."

"Patients do not want impersonal health centers. They want doctors they know and trust."

"The Government is using war powers to enslave a noble profession."

"The methods proposed are abominable."

"Northern Ireland rejects entirely the administrative proposals. If people like to be brutally taxed for social security that is their business, but as doctors we oppose the plan."

"Our terms of service would be terms of servitude."

"The hands of colleagues in the Services must not be tied by decisions while they are overseas."

"For political reasons the Government wants an attractive scheme on paper for the public, but the profession wants one that is real and workable."

"Most social services are financial matters, but medical service is a question of facilitating relations between doctors and patients."

"If the plan goes into effect, it will result in a servile profession run by political hacks."

"For twenty years the profession has been pressing for a reform of the health services. They could be improved, but the doctors know better than anyone else how to do it."

"What does the average patient want? Means wherewith to go to a private doctor. It is possible to hammer out a service for the nation. We want extension of all facilities to all people, without further control."

"We are totally opposed to control by central or local authorities. There are very few of us who don't want to see an extension of services, but the primary need is freedom of contract. Freedom! Today is Runnymede!"

"Doctors should be allowed to continue to own the goodwill of their practices."

"At least 40,000,000 pounds, and probably much more, will be needed to compensate doctors for the value of practices; no Government dare hand over 40,000,000 pounds to the doctors just like that. The association would be wise to have nothing to do with the subject of compensation."

"Why should we be frightened of the Government? We are more important than it. The country can get on without this Government—though we should be sorry to lose Mr. Churchill, and I hope we shall not lose him—but the country cannot get on without the doctors."

"Government snoopers will be going around to see if a person is sick or not, and we shall become automata and cogs in a machine."

"One is reminded of a notice in a public park—No dogs allowed unless under control; that means a chain, and doctors do not want to be on a chain."

"Let us scrap the panel and have done with it."

"All the money which has gone to the approved societies would have been much better spent if it had been given to the voluntary hospitals."

"We do not want the panel system to continue."

"The stranglehold on the profession that is envisaged is only one of the first steps to totalitarianism. This country was built up on private enterprise and individualism."

"We oppose any regulation which would give a Government department the right to say where a doctor should practice."

"On the 100 per cent issue, that is, that everyone irrespective of income or social status should contribute and be eligible for free treatment, it is unnecessary for

the State to provide it for those who are willing and able to provide it for themselves."

"If private practice ceases to exist the Government will hold a monopoly. In these days of public opposition to cartels and monopolies, why should the first big monopoly be a monopoly of health?"

THESE highly articulate men know a great deal about incipient left-wing State medicine at first hand and therefore speak with peculiar authority. Let us support their tanks with our B-29 Superfortresses.



New Army Bulletin on Gonorrhea

PENICILLIN is the drug of choice in the treatment of gonorrhea, according to a new War Department bulletin (TB Med 96). The use of sulfonamides, it says, will be limited to those cases not responding to adequate penicillin therapy and those instances in which penicillin is not available through normal supply channels. However, it is particularly important, the bulletin warns, that patients with gonorrhea treated by penicillin be carefully followed with respect to the possible development of primary and secondary syphilis which may be retarded or masked by the penicillin therapy.

Continued Interest in Tropical Diseases

THE importance of tropical diseases and the interest in them which has developed during this war will not decrease with the cessation of hostilities, according to Brigadier General James S. Simmons, USA., Chief of the Preventive Medicine Service. Speaking before the annual meeting of the American Association for the Advancement of Science, General Simmons gave several reasons for his statement including increased travel between this country and the tropical regions of the world and the use of swift, modern aircraft which will increase the chance of introducing tropical diseases and disease carriers. Although the hazards of tropical diseases will become more world wide, he said, these hazards can be met and

neutralized if we continue to develop the knowledge and health facilities now available.

Standardization of Penicillin

ACTION to procure worldwide uniformity in notation and dosage of penicillin was taken recently at a Conference for the Standardization of Penicillin in London, held under the auspices of the Health Section of the League of Nations, the League of Nations Association, 8 West 40th Street, New York City, has announced. The Conference decided upon a pure crystalline preparation of a sodium salt of penicillin G as the International Standard, and defined the International Unit as the penicillin activity contained in 0.6 microgrammes of the International Standard.

Agreements of this kind were first reached for antitoxins, when in 1921, the Health Committee of the League took up the question of measuring the activity of a number of modern biological remedies in order to obtain international uniformity by agreements to use a common set of standards and units. Standards for vitamins, hormones, insulin, digitalis and arsphenamine were subsequently decided upon, with the result that today the activity of over thirty biological products is being assessed in terms of international standards. They are distributed throughout the world for the League by the National Institute for Medical Research, London, and the State Serum Institute, Copenhagen, even in war times.



Friendly Death

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CULTURAL MEDICINE

DEATH AS A THEME IN ART

DURING the superstitious Middle Ages creative artists were preoccupied with the subject of Death as a destructive power over men. The Renaissance saw the subject intellectualized by Hans Holbein the younger (1497-1543). Then ensued the rococo period with its gradual decrescendo to the German Alfred Rethel, modern, nineteenth century artist, with his picturization of Death, for the first time, as a friendly force in the life of men, a conception quite impossible to the fear-obsessed medieval mind.

The physician frequently appears in these representations of Death, and Dr. Alfred Scott Warthin's work, *The Physician of the Dance of Death* (Hoeber, New York, 1931), does full justice to this phase of the subject. Dr. Warthin declares that after Rethel, whose most famous woodcut we present as our frontispiece in this issue of the *MEDICAL TIMES*, the nineteenth century produced no artist comparable to him in creative power or technical skill. He ranks with Holbein the younger and Dürer and was able to "combine the medieval and modern spirit into a harmonious whole of the deepest spiritual significance . . . His works satisfied the imagination, as they did the intellect."

The germ of what the French and other Latin peoples called the *Danse Macabre* may be traced back to the early church plays, although those plays were written and performed in a serious and solemn spirit. In the plays there were dialogues

between Death and representatives of the various classes, "from the Pope and Emperor down." This in turn led to literary and pictorial representations by painters and sculptors and by the makers of illustrated manuscripts and of woodcuts, in which the action more and more took on the character of a dance, all in the spirit of a kind of sardonic humor. Even in the modern world of music the theme has been splendidly utilized by Saint-Saëns in his *Danse macabre*, while in literature we encounter it in Goethe's ballad *Der Todtentanz*.

The original of our frontispiece was done by Rethel about 1850. Its title, "Der Tod als Freund," we have Englished as "Friendly Death." We see the interior of a cathedral tower and the figure of an expiring bell-ringer, with his keys by his side. Through the opening in the wall one sees a river valley with the sun setting behind a mountain. The little bird on the parapet carries its own clear symbolism. Death, in pilgrim garb, rings the bell for vespers as a friendly service for the old bell-ringer. "All of the atmosphere of the Middle Ages is in it," says Warthin, "but more than that there is the new conception of Death, not as a ruthless destroyer of life, but as a friend, bringing release to the weary soul. In this work Rethel struck the keynote of the modern outlook upon the world, in its changed attitude towards death."



ASYMMETRY IN DISEASE

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clarified by serious studies in SIVC. Such work should include careful statistical studies of the literature and of unpublished cases, correlation of new studies at autopsy with clinical records, comparison of morbidity rates in SIVC with rates in

situs solitus, and animal experiments of various types.

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MISCELLANY

PENIS CAPTIVUS: MYTH OR ACTUALITY?

With some Notes on Sir William Osler's *Alter Ego*

DURING his Philadelphia sojourn, Osler shared with three others the writing of the editorials for the *Medical News*, famous weekly. One of the editors was Theophilus Parvin, considered by Osler a pedantic prig whose task on the journal was chiefly concerned with obstetric and gynecologic matters. Now Osler, as is well known, was an inveterate player of pranks, for the perpetration of many of which he assumed the *nom de plume* of Egerton Y. Davis. So it came to pass that the pompous Parvin wrote a particularly stilted editorial on vaginismus, whereupon Osler, seizing the opportunity, sent in a letter to the journal, ostensibly written by Egerton Y. Davis, commenting on Parvin's editorial. It appeared under Correspondence in the issue of December 13, 1884, on page 673 (vol. 45), and we reproduce it below:

VAGINISMUS

Dear Sir:

The reading of an admirably written and instructive editorial in the *Philadelphia Medical News* for 24th November, on forms of vaginismus, has reminded me of a case which bears out, in an extraordinary way, the statements therein contained. When in practice at Pentonville, England, I was sent for, about 11 P.M., by a gentleman whom, on my arriving at his home, I found in a state of great perturbation, and the story he told me was briefly as follows:

At bedtime, when going to the back kitchen to see if the house was shut up, a noise in the coachman's room attracted his attention, and, going in, he discovered to his horror that the man was in bed with one of the maids. She screamed, he struggled, and they rolled out of bed together and made frantic efforts to get apart, but without success. He was a big, burly man, over six feet, and she was a small woman, weighing not more than ninety pounds. She was moaning and screaming, and seemed in great agony, so that, after several fruitless attempts to get them apart, he sent for me. When I

arrived I found the man standing up and supporting the woman in his arms, and it was quite evident that his penis was tightly locked in her vagina, and any attempt to dislodge it was accompanied by much pain on the part of both. It was, indeed, a case "*De cohesione in coitu.*" I applied water, and then ice, but ineffectually, and at last sent for chloroform, a few whiffs of which sent the woman to sleep, relaxed the spasm, and released the captive penis, which was swollen, livid, and in a state of semi-erection, which did not go down for several hours, and for days the organ was extremely sore. The woman recovered rapidly, and seemed none the worse.

I am sorry that I did not examine if the sphincter ani was contracted, but I did not think of it. In this case there must have been also spasm of the muscle at the orifice, as well as higher up, for the penis seemed nipped low down, and this contraction, I think, kept the blood retained and the organ erect. As an instance of Jago's "beast with two backs," the picture was perfect. I have often wondered how it was, considering with what agility the man can, under certain circumstances, jump up, that Phineas, the son of Eleazer, was able to thrust his javelin through the man and the Midianitish woman (*vide Exodus*); but the occurrence of such cases as the above may offer a possible explanation.

Yours truly,

Egerton Y. Davis,
Ex. U. S. Army.

Caughnawaga, Quebec,
4th December, 1884.

Among the papers in the Osler Library is a note of Osler's concerning this secondary personality of his in the course of which he mischievously remarks that the Egerton Y. Davis letter in the *Medical News* "has gone into literature and is often quoted." The entire episode inevitably makes one wonder a bit as to the authenticity of any of the "captive penis" reports. Have the solemn recitals of such

cases by professors of obstetrics and gynecology to convulsed and credulous students been anything but hokum? Has the human penis ever really been in captivity? We doubt it. We jealously proclaim its complete freedom in a world of compromises, inhibitions and frustrations. If the penis is not free, then all privilege is a fiction. As "Britons never shall be slaves," so the penis never shall be captured. Failure to include such a declaration in the Atlantic Charter was a serious omission.

A dreadful thought is born at this point. How many other hoaxes have passed into the literature, to be quoted as dogma again and again and again, perhaps, by naive authors?

Of one thing we are certain—the literature of the Freudians is rich in preposterous reports. It obviously outmatches our captive penis story many times over. Can it be that the psychoanalysts, as a class, are really our greatest humorists, superbly disguised?

AN UNCOMMON FORM OF VAGINISMUS

THE editorial in the *Medical News* written by Parvin which aroused Osler's mischievous proclivities follows:

The word *cunus*, signifying the female pudendum, was said to have been used by "the more lascivious poets," and was condemned by Cicero, in one of his orations, as an obscene word. Though Horace does not deserve to be placed in this class, yet he made use of the word: *Fuit ante Helenum cunus teterrima belli causa*. Nevertheless, it has a classic derivation, probably coming from *kuein*—to be pregnant—and for many years had a place in anatomy; indeed, up to the present some writers speak of the constrictor cunni muscle, but most now designate the muscular structure which contracts the vaginal entrance as the bulbo-cavernosi muscles; these are the vaginal sphincter.

The late Dr. Sims, in a paper communicated to the London Obstetrical Society by Dr. Tyler Smith in 1861, stated that, by the term vaginismus, he proposed to designate "an involuntary, spasmodic closure of the mouth of the vagina, attended by such excessive supersensitiveness as to form a complete barrier to coition." Dr. Sims did not describe a new disease—indeed, he disclaimed any such attempt. Dr. Louis Debrand, who has recently pub-

lished an important monograph, *Des Rétrécissements du Conduit Vulvo-Vaginal*, states that Huguier, in 1834, was the first to describe spasmodic contraction of the vaginal sphincter. Nevertheless, though Dr. Sims only recalled attention to a disorder which others had observed, he gave it a name so suitable that it at once received general acceptance, and is sure to keep its place in medical nomenclature.

But while the name was received with such favor, its definition as given by Dr. Sims was soon found to be too narrow. For example, in a case of vaginismus recently under our observation (the subject had been married several months, and coition had been impossible) there was very great suffering, especially marked at the monthly periods, in the anal sphincter, violent cramp of this muscle, accompanied with painful and difficult defecation, although there was no local disease to be discovered here, and the affection was cured by the treatment of the vaginismus, using this word as previously defined.

Hildebrandt, who has written, in Billroth's *Handbuch der Frauenkrankheiten*, probably the best article upon vaginismus to be found, remarks: "Most frequently the constrictor cunni is the seat of this cramp. From the anatomical position of this muscle the necessarily following results are the impossibility of coitus, the application of a speculum, even the introduction of the exploiting finger." He then adds that, in the further progress of the disease, there occurs cramp of the anal sphincter, in which the patient has a sensation of swelling, rigid enlargement, tension, spasmodic jerking, and difficult and painful defecation. He describes this spasm as extending to other muscles, or to groups of muscles, forming the pelvic floor; in rare cases all the muscles are affected. He states that cramp of the levator ani may cause contraction of the upper part of the vagina, so that a speculum, or a swollen glans penis, as in coition, may be forcibly retained.

The form of vaginismus last mentioned has recently been considered again by Henrichsen in the *Archiv für Gynäkologie*. The author refers to the observation of Scanzoni, and those of Hildebrandt, in which the penis was retained captive by woman's genital organs, after coitus, by a phenomenon analogous to that observed in certain animals, especially the dog. He

states that, while Scanzoni thought this phenomenon due to the constrictor of the vagina, Hildebrandt attributes it to the levator ani, for the constrictor of the vagina would oppose the intromission of the penis, and it is not at all probable that spasm of the latter muscle could retain the member already introduced, especially a part of it which is smaller than the glans.

Debrand, *op. cit.*, quotes from Révillout a case in which the contraction was about two inches from the vaginal entrance, and a little below the neck of the uterus and the vaginal cul-de-sacs; there seemed to be two muscular bands at this point, one on each side, which contracting, narrowed the canal; the contraction was voluntary.

It is somewhat remarkable that in the recent study of vaginismus affecting the canal in its middle or upper portion, spasmodic elytrostenia, as it is called by Debrand, no reference is made to the facts that it was observed many years ago, and that the very comparison as to the captive human penis now made was then used. Schurigius, in 1729, wrote *De cohaesione in coitu*, and referred to it as analogous to the retention of the penis noticed in animals; he quotes Lannius as stating it to be a spasmodic affection of the female genitals. Riolanus describes it as a grasping of the penis by the mouth of the womb open after menstruation, "and retaining it, as is done in dogs." Diemerbroec, in 1687, also mentioned the disease.

It is well for us to be grateful for all additions to medical knowledge, but it is also well for us not to neglect the observations of past ages, and to remember that rediscoveries are probably more frequent than discoveries.

HARVEY CUSHING'S *Life of Sir William Osler* has a large number of references to Egerton Y. Davis. They run right through this intimate record and *in toto* make it quite clear that Osler's friends were not confused about the matter; they always identified the two personalities. Thus many episodes are recited revealing a pretty continuous masquerade—"E.Y.D." was signed to book reviews, to squibs and lampoons, to postcards and to hotel registers. Osler was known to inadvertently start to sign important documents with the *nom de plume*.

William Osler was the primary, and

"E.Y.D." the secondary, masked personality. This is no stranger than the famous case of William Sharp, plodding critic and hack, and his *alter ego*, Fiona Macleod, inspired dreamer and poet of moods. The purely intellectual work that he did as William Sharp showed no sign of having sprung from "the same mental womb where it had lain side by side with so fair a sister." These twin personalities actually corresponded with each other by mail. Sharp's preference was for the intimate creative work which he knew grew out of his inner self, "though the exigencies of life, his dependence on his pen for a livelihood, and moreover, the keen, active interest 'William Sharp' took in all the movements of the day, literary and political, at home and abroad, required of him a great amount of applied study and work."

Cushing himself invokes the case of Sir James Barrie, who, in his Rectorial Address at St. Andrew's in 1922 said that "M'Connachie . . . is the name I give to the unruly half of myself: the writing half. We are complement and supplement. I am the half that is dour and practical and canny, he is the fainful half . . . who prefers to fly around on one wing. I should not mind him doing that but he drags me with him."

Egerton Y. Davis, says Cushing, was Osler's M'Connachie. It was the lively, imaginative, creative, charming, lovable and witty "E.Y.D." in Osler that accounted for his graceful literary gifts, contagious fervor as teacher, and captivating traits in general. The primary Osler was much like the primary William Sharp and the primary James Barrie. The trouble with the Theophilus Parvins of medicine is that they lack dynamic M'Connachies. Osler, without his bright genius "E.Y.D.", would have been a Theophilus Parvin himself.

Especially significant is the circumstance that the secondary personality in Osler's case was essentially Celtic in nature. Osler's mother came of the "black Celt" Cornwall stock, which accounted for his dark skin and eyes and small stature. It was that stock which is found in parts of Wales, Cornwall, Western Ireland and Argyllshire, as well as in Brittany. This circumstance aligns "E.Y.D." with the Macleod and M'Connachie personalities.

A. C. J.

CONTEMPORARY PROGRESS

GYNECOLOGY

The Control of Menorrhagia by Prolactin

H. S. KUPPERMAN, PAUL FRIED and L. Q. HAIR (*Americal Journal of Obstetrics and Gynecology*, 48:228, Aug. 1944) found that prolactin given in doses of 100 I.U. daily by subcutaneous injection during the period of uterine bleeding for three to six days resulted in the cessation of bleeding in all but 2 of 17 cases of functional menorrhagia. In some cases prolactin therapy was required for the first two or three days of subsequent menstrual periods to control bleeding, but 5 patients had normal cycles after one successful course of treatment. Prolactin in doses of 100 to 200 I.U. daily controlled the bleeding in a considerable percentage of cases of fibromyoma of the uterus and cystic ovaries; results in menorrhagia associated with chronic pelvic inflammatory disease were less satisfactory. In all these cases the prolactin therapy was employed only as a palliative and as a means of preparing the patient for operation or other therapeutic measures. In 14 cases in which dysmenorrhea was associated with menorrhagia, relief of pain was obtained in 8 cases with prolactin therapy. Prolactin given to women with normal cyclic menstruation in doses of 300 to 500 I.U. weekly for seven or ten weeks had no effect on the cycle, the menstrual flow or the endometrium. The authors are of the opinion that the effect of lactogenic hormone on uterine bleeding is "probably linked with its luteotrophic properties."

COMMENT

Of all the menstrual dysfunctions, menorrhagia presents the most formidable problem to the clinician. Its results, both immediate and remote, are well known. Prevention and/or control is most important. Prolactin, the lactogenic hormone, is apparently potent for we have had very good results with its use in menorrhagia. Its mode of action is not

clear. There are several plausible premises. Its administration is harmless and does not affect an already normal menstrual cycle and therefore it should be used freely whenever indicated. Read this article and get prepared to try it in your next case of menorrhagia—and perhaps also dysmenorrhea. Don't be too discouraged if it does not work. Just try something else. Remember! there is no specific for menorrhagia—except castration.

H.B.M

Vitamin K Therapy in Menorrhagia

R. GUBNER and H. E. UNGER-LEIDER (*Southern Medical Journal*, 37:556, Oct. 1944) gave vitamin K to employees of the Equitable Life Assurance Society who complained of chronic dysmenorrhea and menorrhagia. The average dose was two 5-mg. tablets over a period of five days, beginning one or two days before the onset of menstruation in most cases, or, in some instances, on the first day of the menses. In 12 patients whose menstrual periods were prolonged for six days or over, vitamin K therapy shortened the duration of the flow in 8 instances. In several cases in which "spotting" continued for ten or twelve days, the period was shortened to four or five days. If the menstrual period was of normal duration, five days or less, vitamin K had less effect on the duration of the flow, shortening the period in only 8 of 26 cases. The amount of the flow was unchanged in 17 cases, decreased in 9 cases, and reported to be increased in 8 cases. In the latter group the increase occurred on the first day, rather than over the entire period. In 26 of the patients, there were clots present in the menstrual flow; in 16 cases, the clots disappeared or were diminished under vitamin K therapy. Prothrombin studies were not made in this series of cases, but in 2 other cases of menorrhagia, the prothrombin time was prolonged at the onset of menstruation; the menorrhagia in these

cases was "beneficially influenced" by vitamin K therapy, and the prothrombin time restored to normal in one case. Cephalin flocculation tests in these 2 patients also indicated an impairment of liver function at the onset of menstruation. The beneficial effect of vitamin K on menorrhagia not due to local pelvic abnormalities is probably related to its action on prothrombin formation; prothrombin function is "a sensitive index of hepatic integrity"; and other evidence indicates that hepatic dysfunction may be related to menstrual disorders. Measures designed to improve liver function may be of value in the treatment of menstrual disorders, as has also been noted by Biskind in his report on the use of vitamin B complex therapy in such disorders.

COMMENT

We have had no experience in the employment of vitamin K in menorrhagia. Theoretically, in cases without pelvic pathology or abnormality, it should be of value and it is commendable that the authors saw fit to try it out in a reasonable number of well chosen cases. It is without danger if properly controlled. As the authors point out, it is undoubtedly "hooked up" with hepatic function but this has not been proven.

H.B.M.

Theca-Cell Tumors of the Ovary

J. L. MCGOLDRICK and W. A. LAPP (*American Journal of Obstetrics and Gynecology*, 48:409, Sept. 1944) report 3 cases of theca-cell tumor of the ovary in a series of 176 ovarian tumors removed at operation at Kings County Hospital, Brooklyn. They also note a fourth case in which a theca-cell tumor of the ovary was found at autopsy; in this case death was due to a cerebral tumor, and the

ovarian tumor was an "incidental" finding; the uterus contained several small intramural myomas. In the 3 cases in which the ovarian tumor was removed at operation there had been no menstrual irregularities in 2 cases; in one of these the uterus appeared normal and was not removed; in the other the uterus was myomatous and a supravaginal hysterectomy was done. The third patient had postmenopausal bleeding; the uterus was also myomatous in this case and was removed.

In 73 cases collected from the literature, including the 4 cases reported by the authors, 28 of the patients (37.8 per cent) were in the fifty to fifty-nine year age group; postmenopausal bleeding occurred in 72.92 per cent. The size of the theca-cell tumor apparently has no relation to its endocrine function, as in one of the authors' cases in which there were no menstrual irregularities, the tumor was the largest of this type reported, weighing 5,380 gm. Free peritoneal fluid is occasionally observed with theca-cell tumors of the

ovary, although the tumor is histologically benign; this was observed in one of the authors' cases. There have been only 3 cases of malignant theca-cell tumor reported; in all the authors' cases the tumor was benign. In 52 of the reported cases in which the condition of the uterus is reported, myomas were present in 24 instances; hypertrophy of the uterus was reported in an additional 17 cases; adenomyosis in 5 cases. It is generally agreed that treatment of theca-cell tumors of the ovary need not be radical; simple excision of the ovary is usually sufficient. In the authors' 3 cases, postoperative convalescence was uneventful and the patients have been in general good health following operation except that one patient who

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had both ovaries removed (because of fibroma of the opposite ovary) has some menopausal symptoms.

COMMENT

Theca-cell tumors of the ovary are of extremely rare occurrence and are perhaps more important from a pathological viewpoint than clinical. They are not malignant and hence all that is required is a correct clinical diagnosis of ovarian tumor and prompt removal. The important point in this connection is to have every piece of ovarian tissue removed at operation subjected to careful pathological examination. Yes! all tissue no matter from whence it comes should be examined by a competent pathologist. If you would help, talk this idea up in your hospital—of course after the war.

H.B.M.

Vaginal Hysterectomy; an Evaluation of Gellhorn-Emmert Modification of the Dickinson Technique in 600 Cases

F. V. EMMERT (*Surgery, Gynecology and Obstetrics*, 79:277, Sept. 1944) describes the operation for vaginal hysterectomy employed by Dr. Gellhorn and himself in private and in hospital cases. Local infiltration anesthesia of the parametria is employed; if traction on the ligaments causes pain, a "few drops of ether or a few whiffs of gas" are employed. Otherwise the local anesthesia is sufficient. With this type of anesthesia vaginal hysterectomy "entirely loses the character of a major operation"; there is no shock and very little loss of blood. Local infiltration of the anesthetic causes marked blanching of the tissues which makes dissection easier and helps to maintain hemostasis. In the author's technique the anterior cul-de-sac is not opened until the uterine vessels are cut and ligated and the posterior and lateral attachments to the avascular portion of the broad ligaments are sectioned. The round ligaments are interposed between the bladder and the anterior vaginal wall thus preventing prolapse and cystocele. Enterocoele is prevented by obliterating the pouch of Douglas and shortening the uterosacral ligaments. A "moderately deep" vagina is obtained by a plastic operation. Of the 600 cases reported, 502 were private patients, who were followed up for three years or longer and 98 clinic patients who were followed up for six months or longer. Satisfactory results were obtained in 524 cases, or 87.33 per cent; in the cases with unsatisfactory results there were 36 cases of cystocele (6

per cent) and 28 cases of rectocele (4.6 per cent), a low percentage of these complications as compared with the results with other methods of vaginal hysterectomy.

COMMENT

Vaginal hysterectomy has never been as popular in America as on the Continent and particularly in Germany. It seems strange that this should be true. Certainly, as to technics, the American gynecologists and surgeons cannot be considered second-raters. We believe it simmers down to the "custom of usage"—it is customary for we Americans to perform abdominal hysterectomy rather than routine vaginal. Why? Because we were taught that way. Your commentator had the good fortune to receive personal instruction from the late Dr. George Gellhorn on vaginal hysterectomy under local anesthesia and has used this method, on special indications, for some 15 years or more. Local anesthesia, like vaginal hysterectomy, should be more routinely employed in our American clinics. The technic, as outlined by Dr. Emmert, is sound, although this may be altered to suit the individual operator without affecting the final results. After all is said and done, it is the technical skill of the operator, and not any particular type of operation employed, that gives good or not so good results. If you are competent, we strongly recommend vaginal hysterectomy under local anesthesia in suitable cases.

H.B.M.

Zondek's Simplified Treatment of Secondary Amenorrhea

R. S. FINKLER (*American Journal of Obstetrics and Gynecology*, 48:26, July 1944) reports the treatment of 31 patients with secondary amenorrhea by Zondek's simplified method. This consists in the simultaneous administration of 2.5 mg. estradiol benzoate and 12.5 mg. progesterone by intramuscular injection on two consecutive days. The ages of the patients treated varied from fifteen and a half to thirty-eight years, average twenty-three years; the duration of the amenorrhea varied from two months to seven years. No cause for the amenorrhea other than endocrine deficiency could be found in any of these cases. Uterine bleeding occurred following this two-day treatment in 25 patients, 80.6 per cent; as a rule bleeding occurred within four to six days following the second injection, but there were also shorter as well as longer intervals in some instances. In 2 of the 6 patients who failed to respond to the treatment, the

duration of the amenorrhea was over two years; 4 of the 6 showed "marked hypoplasia" of the uterus. In 4 patients the first bleeding induced by the treatment was followed by spontaneous menstruation at four-week intervals; in 2 cases, only one such spontaneous menstrual period occurred, in one case, three spontaneous periods, and in another six periods. Spontaneous bleeding periods also occurred in other patients in this series who had been treated by other methods "intermittently." Endometrial biopsies in some patients responding to the two-day therapy showed that no marked changes were produced in the endometrial pattern by the treatment. The author considers that the two-day treatment described should be tried in all

cases of functional amenorrhea of less than two years' duration, if thyroid treatment fails, and if, "for some reason or other", it is desirable to induce uterine bleeding in as short a period as possible.

COMMENT

Without doubt Zondek's simplified treatment of amenorrhea is of considerable importance. In the first place it saves much money and time for the patient and secondly there is scientific reason for its efficacy. We have had no personal experience with this exact method of giving indicated endocrines in secondary amenorrhea. However, we would not hesitate to employ it if the occasion arose. No harm and much good may result. Success in the treatment of any kind of amenorrhea results in a grateful patient.

H.B.M.

OBSTETRICS

Use of Methergine (Synthetic Ergonovine) in the Third Stage of Labor

P. C. ROBERTS (*Western Journal of Surgery, Obstetrics and Gynecology*, 52:380, Sept. 1944) reports the use of the synthetic ergonovine methergine in the third stage of labor in 34 cases. It had previously been given by subcutaneous injection to 26 patients without causing any untoward systemic reaction. In the 34 cases reported a 1 cc. ampule of methergine was given intravenously immediately after the delivery of the child. When the uterus first showed "a change to firmness," expression of the placenta was attempted "by compressing the anterior and posterior surfaces of the uterus" without downward pressure. No ergonovine was given in the postpartum period in these cases, but the control series of patients (not given the methergine) were given an oral ergonovine preparation postpartum. Measurement of the blood loss showed that the average blood loss was definitely less in the patients given methergine than in the controls (181 cc. as compared with 247 cc.); only 2 patients in the methergine series had a blood loss of over 500 cc.; the heaviest blood loss was 850 cc. (one case, 2.94 per cent); in the control series 7.69 per cent had a blood loss of 1200 cc. The duration of the third stage of labor was five minutes or less in 82 per cent of the patients given methergine. In all cases

given methergine the contraction of the fundus was stronger and of greater intensity and duration with methergine than with any other ergonovine preparation. The author concludes that his experience with methergine indicates that it is "a useful, potent oxytocic of great value", although further study of this drug is necessary before reaching final conclusions.

D. G. TOLLEFSON (*Western Journal of Surgery, Obstetrics and Gynecology*, 52:383, Sept. 1944) also reports the use of methergine as an oxytocic in 200 deliveries. In these cases 1 cc. of methergine was given intravenously "as soon as separation of the placenta was in progress"; in this series, when the placenta was palpable in the cervical opening. As soon as the uterine contraction resulting from the action of the oxytocic was palpated (average time, forty-eight seconds), simple expression of the placenta was practiced. The placenta was expelled "almost immediately." The average estimated blood loss in these cases was 98 cc. The lochia was noticeably reduced. The postpartum hospital stay in these cases averaged 8.4 days. Morbidity was not greater than in any similar series of deliveries; the only noticeable complication was a definite increase in after pains of approximately 10 per cent; this might be avoided by giving a smaller dose of methergine. The author concludes that methergine is "an efficient and dependable oxytocic", and that with its use pituitary oxylation can be

"eliminated" in the management of the third stage of labor.

COMMENT

The use of a potent oxytocic after the separation of the placenta is highly desirable. The use of any oxytocic, except perhaps in small doses, before the placenta is separated is still debatable. "Hands off the 3rd stage" (when normal) has always been our practice. We have never been convinced that full therapeutic doses of any oxytocic should be given immediately after the birth of the baby and before placental separation. Whereas such practice may be acceptable in the hands of an expert in a good hospital, it certainly is not a routine procedure for the inexperienced in the home or a smaller, less well equipped hospital and nursing home. Methergine (synthetic ergonovine) is a dependable oxytocic but no more so than many others that are available today. Try it.

H.B.M.

Continuous Spinal Anesthesia for Labor and Delivery

M. C. HENEBAUGH, JR. and WARREN R. LANG (*Annals of Surgery*, 120: 143, Aug. 1943) report the use of continuous spinal anesthesia for labor and vaginal delivery in 50 cases. This method has been employed previously for cesarean section, but the authors have found no report on its use in normal labor. They decided to use spinal instead of caudal anesthesia because of the difficulty of inserting the needle properly into the caudal canal. The technique used in these cases was not uniform; the third or fourth lumbar interspace was first used as the site of the injection, but as this did not relieve all pain with each uterine contraction, the injection was made at a higher level, in the first or second lumbar interspace. The method finally adopted is to employ a malleable steel needle similar to that used by Hingson and Edwards for caudal anesthesia, connected with a Luer-Lok syringe with a cut off valve. The anesthetic used is a 1.5 per cent metycaine in Ringer's solution; the standard dose is 1 cc. of this solution (15 mg. metycaine), which is repeated at intervals as necessary to give complete relief of pain (twenty-five to forty minutes). The height of the anesthesia is frequently tested; it should extend 2 to 3 cm. above the umbilicus. With this method complete relief of pain was obtained in 40 cases, or 80 per cent; in 2 cases anesthesia was not obtained; in 3 cases the anesthetic was discontinued because the needle was

dislodged. The patient should be in active labor with the presenting part in the pelvis and cervix dilated 2 to 4 cm. The progress of labor is then somewhat accelerated in the first stage, but the second stage is "altered" and indications for operative delivery increased. The anesthesia has no harmful effect on the child. The authors do not advocate this method "as a routine procedure"; their experience leads them to believe it will be most useful in cases of prematurity; some case of heart disease, hypertensive toxemia and pulmonary disease, and when cervical and vaginal repair have been done previously (because of the relaxing effect of the anesthesia in these cases).

COMMENT

Spinal anesthesia for labor and delivery has not been very widely used in this country but where it has been employed it has proven to be highly satisfactory. Continuous spinal belongs in the same category, and so does caudal. These methods require an expert anesthetist and considerable general supervision during labor and it is largely for these reasons that they have not more frequently been adopted routinely.

"Until more help is available" these methods will have to give way to the more simple and easily administered methods of obstetric analgesia and anesthesia. Certainly, if facilities and personnel are available, continuous spinal is an excellent type of anesthesia, particularly where other types are contraindicated. For cesarean section it is ideal.

H.B.M.

The Management of Delivery in Pregnancy Complicated by Serious Rheumatic Heart Disease

C. L. MENDELSON (*American Journal of Obstetrics and Gynecology*, 48:329, Sept. 1944) reports 1089 cases in which pregnancy was complicated by rheumatic heart disease; this group represents 2.6 per cent of 41,459 pregnancies at the New York Lying-In Hospital. According to the classification of the New York Heart Association, 113 (10 per cent) of these patients had cardiac disease of Class 3, and 54 (5 per cent) of Class 4. There were 11 deaths in the series of 1089 cases, but only 8 of these were cardiac deaths. All these cardiac deaths were due to decompensation; death occurred before delivery in 5 cases, after abdominal delivery in 3 cases. In the 1038 patients with rheumatic heart disease delivered vaginally there were no deaths; this group includes 136 cases of

classes 3 and 4; 35 were abortions and 101 viable deliveries. The low mortality in this series of pregnancies complicated by rheumatic heart disease is due primarily to good antepartum care. All were studied in special clinics where the functional capacity of the heart was carefully determined, and were followed up throughout pregnancy. All patients with a cardiac condition more serious than Class 2 should be hospitalized for study and therapeutic abortion done if indicated. If pregnancy is allowed to continue the patient may be followed up in a cardiac clinic or may be kept in the hospital. During labor, the pulse and respiratory rates must be frequently determined during the first stage. If the pulse rate increases above 110 per minute and the respiratory rate above 24 per minute, or if the pulse rate alone increases above 110 per minute, during this stage, the patient must be "rapidly and completely digitalized." She must be kept upright in bed and given oxygen; and should be delivered by forceps as soon as "feasible" after the cervix is fully dilated. Analgesia should be employed, but drugs causing excitement or restlessness should be avoided. Abdominal delivery is indicated in some cardiac patients; indications must be determined for each individual; but the results in the series reported indicate that a large percentage of pregnant women with cardiac disease can be safely delivered vaginally. The "hazards of labor" in these cases can be definitely reduced by good antepartum care, careful functional evaluation, adequate digitalization and shortening of the second stage.

COMMENT

The management of pregnancy and delivery in the presence of serious rheumatic heart disease requires the attention of two experts, viz: an obstetrician and a cardiologist. The closer these two experts work together the more successful the outcome. Furthermore, the cardiologist who has had some experience with the "pregnant heart" can render better service, both to the patient and the obstetrician. The "pregnant heart" behaves differently under the strain of pregnancy and labor, which fact must be fully appreciated if the best results are to be obtained. As the author states, the "hazards of labor" can be definitely reduced by good antepartum care; careful functional evaluation; shortening of the second stage of labor. Thus the dual job of obstetrician and cardiologist is linked together and is doomed to failure unless harmony, coupled with expert knowledge, is maintained at all times. Never tackle one of

these cases without the help of a competent cardiologist or internist. If you live in a small community and "experts" are not available take your patient to the nearest good hospital. These are not "home cases".

H.B.M.

Vaginal Antisepsis; a Comparative Study of Bimerphen Solution in 910 Consecutive Deliveries

R. R. GATES (*American Journal of Obstetrics and Gynecology*, 48:246, Aug. 1944) reports the use of bimerphen solution for vaginal antisepsis during labor. This solution is a combination of hexyl-m-cresol 1:1000 and phenyl mercuric acetate 1:1,000 in 75 per cent propylene glycol. This solution has marked bactericidal as well as bacteriostatic activity, and is effective in the presence of serum or other body fluids. When the patient was admitted to the delivery floor, ½ ounce of bimerphen solution was instilled into the vagina with a sterile Asepto syringe; a second instillation was given in four hours if the patient was not delivered at that time; a third instillation in another four hours if the patient was still undelivered. This method was used in 910 deliveries. The majority of the group receiving three instillations were primiparas; this is because of the longer labors in this group. Morbidity, on the basis of two or more temperatures of 100.4° or over at any time after the first twenty-four hours, occurred in 6.70 per cent; morbidity due to pelvic conditions (excluding medical, breast, and renal causes), in 5.71 per cent. In 40 cases with perineal injuries the morbidity was 6.8 per cent. In comparing these results with those obtained with other vaginal antiseptics the author finds that bimerphen solution is "at least as effective" as any antiseptic employed. It has been found to be safe for mother and child, rapid in action, and is easy to apply; it has the further practical advantage of being non-staining.

COMMENT

Vaginal antisepsis should be routine for every labor and delivery. The obstetrician or physician who does not employ vaginal antisepsis is not rendering the best service possible to his patient. The particular type of germicide used is not important. There are scores of germicidal agents that are potent, dependable and non-toxic. Select a good vaginal antiseptic; learn the technic of how to get the best results with it; and use it religiously in every obstetric case you deliver. Your results will be gratifying.

H.B.M.

RHINOLARYNGOLOGY

Histopathology of the Nasal Mucosa of Older Persons

A. R. HOLLENDER (*Archives of Otolaryngology*, 40:92, Aug. 1944) reports a histological study of nasal mucosa of the inferior turbinates removed at autopsy of 23 persons between fifty and ninety years of age. The causes of death varied in these cases, but there was a nasal disease in only one case. The chief alteration in the mucosa in these cases was a decrease in the lymphatic tissue in the subepithelial layer and about the glands. But this change was not definitely correlated with the age of the subject; the number of preceding rhinologic infections, the general physical state and the nature of the fatal disease, as well as age, are factors in this diminution of lymphatic tissue. The decrease in lymphatic tissue is followed by an increase of connective tissue, resulting in fibrosis; this fibrosis had "a deleterious influence" on the glands. The connective tissue septums within the glands of the mucosa and surrounding their excretory ducts were sometimes thickened. The nasal mucosa of older persons to some extent resembles that of atrophic rhinitis. But the fibrosis in atrophic rhinitis is in reality "a firm scar" following an inflammatory process in the mucosa, while in older persons the fibrosis follows degenerative changes in the lymphoid tissues, and does not always consist of firm connective tissue but of looser, and sometimes edematous, tissue. In older persons there is only "a spotlike" destruction of the glands, and there are large areas of entirely normal pseudostratified columnar epithelium, which is not the case in atrophic rhinitis. The changes in the nasal mucosa in older persons cannot be considered identical with those in atrophic rhinitis, either pathologically or clinically.

COMMENT

An illuminating discussion of senile atrophy and an explanation of the difference between it and atrophic rhinitis in younger individuals.

L.C.McH.

The Abuse of Vasoconstrictors in Hay Fever and Vasomotor Rhinitis

LOUIS STERNBERG (*New York State Journal of Medicine*, 44:1573, July 15, 1944) has found that the prolonged and frequent use of vasoconstrictors by patients with hay fever and vasomotor

rhinitis often results in increased nasal discharge and obstruction. The allergic mucous membrane in these cases apparently becomes "refractory" to the drugs and remains "waterlogged" in spite of continued application of the vasoconstrictor. Thirty-two patients who showed this reaction to vasoconstrictors had used eleven different preparations, most of which were isotonic and of a slightly acid pH. There was no evidence to indicate that any one vasoconstrictor did more damage than the others. The length and the frequency of use were more important. On the basis of his findings the author recommends that in hay fever and vasomotor rhinitis, vasoconstrictors, when indicated, should be used as a spray only, not oftener than once or twice in twenty-four hours at the time when the symptoms are most severe.

COMMENT

We agree very definitely that many patients use nose drops containing vasoconstrictors both too frequently and over too long periods of time. We doubt that the ill effects are dependent upon whether a spray or drop-per is used.

L.C.McH.

The Treatment of Epistaxis by Sclerosing Injections

G. L. FOX (*Laryngoscope*, 54:398, Aug. 1944) reports the use of a sclerosing solution in the treatment of epistaxis. The solution used is a sodium psyllate solution (sylnasol). In cases in which active bleeding is occurring, a pledget of cotton moistened with 0.5 per cent pontocaine solution or 4 per cent cocaine hydrochloride is applied firmly to the bleeding area for several minutes. This gives adequate anesthesia and also temporarily controls the bleeding in many cases. The cotton tampon is quickly withdrawn and 0.25 to 0.5 cc. of the sclerosing solution is injected with a hypodermic needle and tuberculin syringe, into the mucosa just below the bleeding point. This raises a vesicle which usually controls the bleeding by pressure; if necessary another 0.25 cc. of sylnasol can be injected after a few minutes. The author has never found more than two injections to be necessary. If the injections should fail to control the bleeding in any case, pressure packing would be necessary, which could be removed in twenty-four hours, when the

effect of the sclerosing agent "would be present." After cessation of the bleeding, the patient is examined every other day for the next week. By that time, the bleeding vessel will be "completely obliterated" by sclerosis. If other varicosities are present, they should be injected in the same way. If the patient shows septal varicosities, but no active bleeding, when first seen, 0.25 cc. of the sclerosing solution is injected at the site of the vessels, with pontocaine anesthesia. The author has found that one injection will "obliterate" a number of small vessels, if the solution is injected intramucosally and not submucosally, and if the solution is "made to diffuse across the entire area involved." In over 100 patients treated for acute or recurrent epistaxis by this method, the results have been "uniformly satisfactory." Active bleeding was controlled immediately; recurrence of bleeding has been prevented by successful obliteration of the bleeding vessels by sclerosis. No complications or serious side-effects have been observed in any case.

COMMENT

This sounds like a very useful procedure and we shall try it.

L.C.McH.

Roentgen Therapy of Sinusitis With Special Adapter

F. C. CHRISTENSEN (*Radiology*, 43:21, July 1944) emphasizes the need for careful diagnostic study when symptoms suggestive of sinusitis are present. The chief symptoms of sinusitis are nasal and pharyngeal discharge, repeated attacks of rhinitis, cough and headache of varying types, according to the sinuses involved. Headache on awaking in the morning and postural headaches are special indications for sinus study. Transillumination is the simplest diagnostic method and should be used first. X-ray diagnostic study is indicated if the findings with transillumination do not permit a definite diagnosis. X-ray films should be made in different positions to determine whether fluid is present. The author has found fluoroscopic examination of definite value in the study of the sinuses. With the patient in the upright position, the head is tilted and turned right and left in various positions. When any pathologic changes are noted, films are made. Rhinological examination

is "of paramount importance" in determining indications for treatment. If any anatomic malformations, such as markedly deflected septum, polyps or tumors, interfere with drainage of the sinuses, or if empyema or antral abscess of dental origin is present, x-ray treatment should be used only as an adjunct to "the proper rhinological procedures." Roentgen-ray treatment is of special value in the subacute and chronic hyperplastic types of sinusitis, after correction of any of the rhinologic conditions noted. The author has designed "a treatment cone" for roentgen irradiation of the sinuses, by means of which the eyes are screened, and all the sinuses—and only the sinuses—are exposed to the radiation at a focal distance of 40 cm. The proper filter is placed at the end of this cone. If desired, either the frontal sinus or either or both antra can be blocked off with a filter of copper, lead or silver. The patient is placed with his head on a 17-degree inclined plane, steadied by a small sand bag on each side. For adult "well developed" patients, the factors used are 145 kv., 6 ma., 40 cm. distance, 0.25 mm. Cu plus 1.0 mm. Al filter, dose 150 r. For children and smaller adults, 120 kv. and a 0.1 mm. Cu plus 1.0 mm. Al filter are used, with a dose of 100 r. Treatment is repeated in a week; three or four treatments may be given. The patients are instructed to cleanse the nose "without violent or forceful blowing." Three cases are reported in which the symptoms were relieved, including one in which one treatment resulted in complete relief. Of the 29 patients treated, 18 have been followed up for one year or more, and have been definitely relieved of their symptoms. No case in the series was given a total dosage of over 450 r; one patient, noted above, was entirely relieved by one treatment; the average number of treatments was three.

COMMENT

We have been waiting for a long time for the roentgenologists to describe the histological changes which are brought about by x-ray therapy in sinusitis. So far we have not received any satisfactory explanation and cannot bring ourselves to commend any form of treatment unless its histopathological effects are such as to rationally justify its use.

L.C.McH.

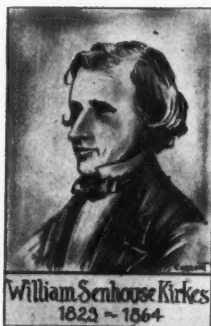
—Concluded on page 64

Medical BOOK NEWS

Edited by

ALFRED E. SHIPLEY, M.D., Dr. P.H.

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn 16, N. Y.



Classical Quotations

● If the right valves have furnished the source of the fibrine, the lungs will bear the brunt of the secondary mischief, displaying it in coagula in the pulmonary arteries, and various forms of deposit in the pulmonary tissue: but if, as is far more commonly the case, the left valves are affected, the mischief is more widely spread, and may fall on any systemic part, but especially on those organs which, such as the brain, spleen, and kidneys, are largely and directly supplied with blood from the left side of the heart.

WILLIAM SENHOUSE KIRKES

On some of the principal effects resulting from the detachment of fibrinous deposits from the interior of the heart, and their mixture with the circulating blood. *Tr. Roy. Med.-Chir. Soc. London* 35:281-324, 1854.

Histology

A Textbook of Histology. Functional Significance of Cells and Inter-Cellular Substances. By E. V. Cowdry. 3rd Edition, thoroughly revised. Philadelphia, Lea & Febiger, [c. 1944]. 426 pages, illustrated. 8vo. Cloth, \$7.00.

THE volume although small contains a wealth of knowledge. The illustrations and engravings with the simplicity of style make it an excellent textbook and reference.

Of course, not like other authors, Dr. Cowdry starts his book with Blood, tissue, fluid and lymph which might be a bit confusing, but we must remember that he is interested in the dynamics of the body in action.

The book should be part of every anatomists library.

NATHAN REIBSTEIN

MEDICAL TIMES, FEBRUARY, 1945

A Psychiatric Handbook

Manual of Psychological Medicine. By A. F. Tredgold, M.D. Baltimore, The Williams & Wilkins Co., [c. 1943]. 298 pages. 8vo. Cloth, \$5.00.

THE book is intended for the general practitioner and the student. It is the author's purpose to present psychological medicine in a reasonably short, concise, practical manner. This he has accomplished in an admirable fashion.

An evaluation of the normal mind is first presented, followed by a classification of mental abnormalities, their causation, a brief description of the various more common mental conditions, and their treatment. The shock therapies are discussed adequately.

The book is authoritative, precise and excellently presented.

JOSEPH L. ABRAMSON

Dictionary for the Obstetrician

Taber's Dictionary of Gynecology and Obstetrics. By Clarence Wilbur Taber with the Collaboration of Mario A. Castallo, M.D. Philadelphia, F. A. Davis Co., [c. 1944]. Illustrated. 16mo.

A SPECIALIZED word and subject dictionary for ready reference. An astonishing number of queer words are included. Derivations have been omitted.

CHARLES A. GORDON

Female Urology

Gynecological and Obstetrical Urology. By Houston S. Everett, M.D. Baltimore, The Williams & Wilkins Co., [c. 1944]. 517 pages, illustrated, 8vo. Cloth, \$6.00.

THIS is a splendid work containing the best of scientific and clinical urology. The anatomical plates are especially good, and the chapter on the relation of female urology to allied specialties is basic for every physician.

Any one reading it carefully will have his memory refreshed and his present knowledge added to by many new aspects in his specialty.

Nearly every female at some age complains of urinary dysfunction.

We know of no recent book whose study will better repay the time given to it.

STURDIVANT READ

BOOKS RECEIVED *for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review noted will be promptly published shortly after acknowledgment of receipt has been made in this column.*

Modern Clinical Syphilology. Diagnosis, Treatment, Case Study. By John H. Stokes, M.D., Herman Beerman, M.D., and Norman R. Ingraham, Jr., M.D. With the Collaboration of 8 Members of the Faculty of the University of Pennsylvania. 3rd Edition. Philadelphia, W. B. Saunders Co., [c. 1944]. 1332 pages, illustrated. 8vo. Cloth, \$10.00.

Los Ninos. Opera et Verba. By Dr. Carlos Enrique Paz Soldán. Lima, Peru, "La Reforma Medica," [c. 1944]. 483 pages. 8vo.

La Oliva Bulbar. Estructura, Funcion y Patologia. By J. O. Trelles. Lima, Peru, The Author, [c. 1944]. 109 pages, illustrated. 8vo. Paper.

Outline of the Amino Acids and Proteins. Edited by Melville Sahyun. 13 Contributing Authors. New York, Reinhold Publishing Corporation, [c. 1944]. 251 pages, illustrated. 8vo. Cloth, \$4.00.

Foundations of Neuro-Psychiatry. By Stanley Cobb, M.D. 3rd Revised and Enlarged edition of the work formerly known as A Preface to Nervous Disease. Baltimore, The Williams & Wilkins Co., [c. 1944]. 252 pages, illustrated. 8vo. Cloth, \$2.50.

A Method of Anatomy. Descriptive and Deductive. By J. C. Boileau Grant, M.D. 3rd Edition. Baltimore, The Williams & Wilkins Co., [c. 1944]. 822 pages, illustrated. 4to. Cloth, \$6.00.

Proteins and Amino Acids. Physiology, Pathology, Therapeutics. Prepared under the supervision of the Scientific Staff of The Arlington Chemical Company. Yonkers, The Arlington Chemical Co., [c. 1944]. 173 pages, illustrated. 8vo.



CONTEMPORARY PROGRESS

—Concluded from page 62

Prevention of Secondary Post-Tonsillectomy Hemorrhage with Sulfathiazole Gum

F. H. McGOVERN (*Archives of Otolaryngology*, 40:196, Sept. 1944) has found that secondary hemorrhage, i.e., hemorrhage occurring three to four days after operation, is not a frequent complication of tonsillectomy, but it nevertheless deserves attention. In the author's experience, the amount of blood lost at operation does not indicate which patients will develop secondary hemorrhage. In a group of 100 patients who had an uneventful convalescence after tonsillectomy, the average blood loss at operation was 56 cc. In another group of patients who had secondary hemorrhage, the average blood loss at operation was 41 cc. The author has found that the use of sulfathiazole gum after operation has a favorable effect on the healing of the tonsillectomy wound and tends to prevent secondary hemorrhage. Tablets of sulfathiazole gum are used, containing 3% grains (25 mg.) of

sulfathiazole. Patients are instructed to chew one to two tablets for one-half to one hour four to six times a day, according to the age and weight of the patient. When the gum had been chewed for one-half to one hour, the average concentration of sulfathiazole in the saliva was 70 mg. per 100 c. In children who chewed one tablet of the gum for half an hour, the blood concentration of sulfathiazole reached a maximum of 0.5 mg. per 100 cc. In adults who chewed two tablets for an hour, the blood concentration of the drug was 0.8 mg. per 100 cc. In a series of 150 patients who used the gum after tonsillectomy, secondary hemorrhage occurred in only 2 patients, and was "mild" in both cases. These 2 patients had bled freely at operation and had used the gum "sparingly" during the postoperative period.

COMMENT

We agree with the author that secondary hemorrhage occurs more often from tonsillectomy and/or adenoidectomy wounds which have become infected. This would seem to be a useful method in attempting to control surface infection of such wounds.

L.C.McH.